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BIOGRAPHICAL SKETCH OF CHARLES DARWIN AND THE DARWIN COMMEMORATION AT CAMBRIDGE.

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Although the annals of the ancient University of Cambridge are illumined by many notable historic events, an occasion which will impart additional lustre to them, and one which will be especially memorable to all who were privileged to participate in it, was the commemoration on June 22–24 of the centenary of the birth of Charles Darwin, and of the fiftieth anniversary of the publication of the work which was destined to exert so great an influence on scientific thought, "The Origin of Species."

The occurrence of the particular period of time which had suggested this commemoration had in other parts not been allowed to pass unnoticed, for it had already in some measure been recognised and honored by various institutions and scientific organisations throughout the world. It was, however, properly reserved for the university at which Darwin completed his academic studies to inaugurate such a celebration as would render an adequate tribute to his genius, and fittingly commemorate the achievements of her distinguished son.

The renewed interest in the life and scientific work of Darwin, stimulated to a considerable extent by the celebration at Cambridge, has already found expression by more or less complete accounts of the latter in ephemeral publications, as well as by memoirs of a broader scope in the various magazines and scientific periodicals. Notwithstanding this fact, the writer, having been accorded the

honor and privilege of representing on this occasion one of the younger institutions of learning of the western world—the Wisconsin State University—has considered that a brief record of the proceedings of the celebration, with the impressions afforded by it, would not be without some features of interest to those engaged in the professional pursuit of pharmacy.

As a prelude to an account of the celebration at Cambridge it is deemed appropriate, and it may be hoped instructive, to very concisely note some of the more important events in the life of the great naturalist, in honor of whose memory these ceremonies were held.

I. BIOGRAPHICAL SKETCH OF CHARLES DARWIN.

Charles Robert Darwin was born on February 12, 1809, at The Mount, Shrewsbury, England, the home of his father, Robert Waring Darwin, a Doctor of Medicine, who was the son of Erasmus Darwin, poet, physician, and philanthropist. On the mother's side he was the grandson of Josiah Wedgwood, the founder of the Etruria Pottery Works, in Staffordshire. In 1817 Charles Darwin lost his mother, and was sent to a day-school at Shrewsbury kept by the Rev. G. Case, a minister of the Unitarian Chapel in which Coleridge preached. Here he remained for about seven years, and regarding this period he has written as follows: "By the time I went to this day-school my taste for natural history, and more especially for collecting, was well developed. I tried to make out the names of plants, and collected all sorts of things, shells, seals, franks, coins, and minerals. The passion for collecting which leads a man to be a systematic naturalist, a virtuoso, or a miser, was very strong in me, and was clearly innate, as none of my sisters or brothers ever had this taste." The tuition received in these early years appears, however, not to have been attended with very satisfactory results, if one may judge from the opinion which Darwin himself has recorded. "I was at school at Shrewsbury under a great scholar, Dr. Butler. I learnt absolutely nothing, except by amusing myself by reading and experimenting in chemistry." When it became known that he was a self-taught student of practical chemistry, he received the school nickname *Gas.*

Darwin left school at a somewhat earlier age than was usual at that time, but, apparently, on account of lack of progress in his studies. With a view to reading for a degree in medicine he was

sent, in October, 1825, to the University of Edinburgh, where his brother was completing his medical studies, and he remained there for two years. The University teaching at that time was altogether by lectures, and it is stated that Darwin found these to be intolerably dull, with the exception of those on chemistry by Hope. His own expression regarding them sufficiently confirms this view. "Dr. Duncan's lectures on *materia medica* at 8 o'clock on a winter's morning are something fearful to remember. Dr. —— made his lectures on human anatomy as dull as he was himself, and the subject disgusted me." Later in life, however, he regretted that he did not practice dissection more diligently, and that he did not attempt to develop a capacity for drawing. It was at Edinburgh that Darwin took his first lessons in stuffing birds, and his preceptor was a negro who at one time had travelled with Waterton. While there he also once attended a meeting of the Edinburgh Royal Society when Sir Walter Scott took the chair as President.

During the year 1828 it was perceived that Darwin did not like the idea of being a physician, and his father therefore proposed that he become a clergyman. For this purpose it was necessary that he should go to one of the English Universities and take a degree. He accordingly entered into residence at Christ's College, Cambridge, in 1828, and graduated in 1831. The rooms occupied by him at this College, where Milton also had studied, were shown to the visitors during the recent celebration. Since Darwin's time they have been occupied by the present Dean of Westminster and successive College Deans.

With regard to the instruction received at Cambridge, Darwin does not appear to have entertained a very high opinion of its educational value, for he has written in this connection as follows: "During the three years which I spent at Cambridge my time was wasted, as far as the academical studies were concerned, as completely as at Edinburgh and at school." Notwithstanding this view, which was doubtless a somewhat exaggerated regret of maturer years, it is believed that Darwin had a real love for Cambridge, to which University he sent all but one of his five sons, for in his autobiography he has also not failed to give expression to the following more appreciative sentiment: "Upon the whole, the three years I spent at Cambridge were the most joyful of my happy life." It was, moreover, through the influence of one of his teachers at Cambridge, Professor Henslow, who occupied the chair of botany,

and with whom he became very intimate, that Darwin was invited to join the expedition of H. M. S. "Beagle," in the capacity of a naturalist.

On December 27, 1831, Darwin sailed from England in the barque mentioned, and this voyage of circumnavigation occupied five years. It was regarded by him as the most important event of his life, and one that determined his whole career. After his return to England, in the autumn of 1836, he again spent a few weeks in Cambridge, where he was occupied in unpacking and distributing the collections made on his South American voyage. In 1837 Darwin took up his residence in London, and in 1839 was married to his cousin, Emma Wedgwood, the daughter of Josiah Wedgwood, who died in 1896. The untiring and life-long devotion of this good woman has been recorded by their son, Mr. Francis Darwin, who, in the "Life and Letters," renders the following beautiful tribute to his mother, without whose constant and watchful care the work of the great naturalist would probably never have been accomplished. He writes: "If the character of my father's working life is to be understood, the conditions of ill-health, under which he worked, must be constantly borne in mind. . . . No one indeed, except my mother, knows the full amount of suffering he endured or the full amount of his wonderful patience. . . . For nearly forty years he never knew one day of the health of ordinary men, and thus his life was one long struggle against the weariness and strain of sickness. And this cannot be told without speaking of the one condition which enabled him to bear the strain and fight out the struggle to the end."

It was also in the year 1839 that Darwin published his *Journal and Researches,* being Vol. III of the *Narrative of the Surveying Voyage of H. M. S. Adventure and Beagle.* In 1842 he wrote a very brief abstract of his theory of species, in pencil, comprising 35 pages. This manuscript, edited by his son, Mr. Francis Darwin, has recently been published by the Cambridge University Press under the title: "The Foundations of the Origin of Species," and a handsomely bound copy was presented to each of the delegates attending the Darwin celebration. The manuscript referred to was extended during the summer of 1844 to 230 pages, and a volume comprising both of these essays has likewise recently been published.

In the autumn of 1842 Darwin settled at the village of Down, in Kent, 18 miles from London, which is described as "a place

where new-comers are seldom seen, and where the names occurring in the old church registers are still borne by the villagers." This quiet rural retreat was destined to be his home for a period of 40 years, or until his death in 1882. His literary activity during the intervening years may here briefly be indicated, some of the following works having been published in several editions:

1842. *The Structure and Distribution of Coral Reefs;* being Part I of the *Geology of the Voyage of the Beagle.*
1844. *Geological Observations on the Volcanic Islands visited during the Voyage of H. M. S. Beagle;* being Part II of the *Geology of the Voyage of the Beagle.*
1845. Publication of the *Journal of Researches* as a separate book.
1846. *Geological Observations on South America;* being Part III of the *Geology of the Voyage of the Beagle.*
1851. *Monograph of the Fossil Lepadidæ* and *Monograph of the sub-class Cirripedia* (Barnacles).
1854. *Monographs of the Balanidæ and Verrucidæ.*
1858. Joint paper by Charles Darwin and Alfred Russel Wallace "On the tendency of species to form varieties; and on the perpetuation of varieties and species by natural means of selection," communicated to the Linnean Society by Sir Charles Lyell and Sir Joseph Hooker (read July 1).
1859. Publication of "*The Origin of Species.*" This was referred to by Huxley, in 1887, as "the most potent instrument for the extension of the realm of natural knowledge since the publication of Newton's 'Principia.'"
1860. Publication of a *Naturalist's Voyage.*
1862. A book *On the various contrivances by which Orchids are fertilised by Insects.*
1865. A paper read before the Linnean Society "*On the Movements and habits of Climbing Plants.*" (Published as a book in 1875.)
1868. *Variation of Animals and Plants under Domestication.*
1871. *The Descent of Man.*
1872. *The Expression of the Emotions in Man and Animals.*
1875. *Insectivorous Plants.*
1876. *The Effects of Cross and Self-fertilisation.*
1877. *The Different Forms of Flowers on Plants of the same Species.*

1880. *The Power of Movement in Plants.*
1881. *The Formation of Vegetable Mould, through the action of Worms.*

The above list of publications is not intended to comprise what may be regarded as the minor scientific contributions, many of which, for example, are contained in the Journal of the Linnean Society and other periodicals.

In 1853 Darwin received one of the two Royal medals which are awarded by the Sovereign upon the recommendation of the Council of the Royal Society. In 1864 he was awarded the Copley Medal, the highest honor which the Royal Society can confer, and in 1867 he received the Prussian Order "Pour le Mérite." No less than sixty scientific societies had bestowed upon him an honorary membership.

The career of this eminent investigator closed on April 19, 1882, and he was laid to rest in Westminster Abbey, a few feet from the grave of Sir Isaac Newton, who, as a member of Trinity College, was also one of the most illustrious sons of Cambridge.

In connection with the preceding sketch it would appear to be of interest to record a list of the plants named after Darwin. This list, which has only recently been published, was compiled by Dr. B. Daydon Jackson, General Secretary to the Linnean Society, and for it the writer is indebted to the Darwin Centenary Number of "Christ's College Magazine," Vol. XXIII, No. 70, Cambridge.

Phanerogams.

Abutilon Darwini, Hook, f.—Bras.
Baccharis Darwinii, Hook. et Arn.—Patagon.
Berberis Darwinii, Hook.—Chile.
Bonatea Darwinii, Weale=Habenaria cassidea, Reichb. f.
Calceolaria Darwinii, Benth.—Reg. Magell.
Catasetum Darwinianum, Rolfe—Guiana.
Carex Darwinii, Boott.—Reg. Magell.
Chiliotrichum Darwinii, Hook. f.=Nardophyllum Darwinii, A Gray.
Clinopodium Darwinii, Kuntze=Micromeria Darwinii, Benth.
Colderia Darwinii, Gürke=C. dichotoma, Lehm.
Eugenia Darwinii, Hook. f.—Chile.
Fagelia Darwinii, Kuntze=Calceolaria Darwinii, Benth.
Galapagoa Darwinii, Hook. f.=Colderia dichotoma, Lehm.

Laelio-Cattleya Darwiniana × hort.
Lippia Darwinii, Speg.=Neosparton Darwinii, Benth. et Hook. f.
Micromeria Darwinii, Benth.—Patagon.
Myrtus Darwinii, Barn.—Chile.
Nardophyllum Darwinii, A. Gray.—Patagon.
Nassauvia Darwinii, O. Hoffm. et Dusén.—Reg. Magell.
Neosparton Darwinii, Benth. et. Hook. f.—Bras.
Opuntia Darwinii, Hensl.—Patagon.
Oxalis Darwinii, Ball.—Patagon.
Panargyrus Darwinii, Hook. et Arn.=Nassauvia Darwinii, O. Hoffm. et Dusén.
Pisonia Darwinii, Hensl.—Ins. Fernando Noronh.
Pleuropetalum Darwinii, Hook. f.—Ins. Galapag.
Polygala Darwinii, A. W. Benn.—Patagon.
Satureia Darwinii, Briq.=Micromeria Darwinii, Benth.
Scalesia Darwinii, Hook. f.—Ins. Galapag.
Senecio Darwinii, Hook. et Arn.—Patagon.
Urtica Darwinii, Hook. f.=U. magellanica, Juss.
Veronica Darwiniana, Colenso.—N. Zel.
Zinnia Darwiniana, Haage et Schmidt=Glossogyne pinnatifida, DC.

Cryptogams.

Ferns, none noted.

Moss.

Ulota Darwinii, Mitt.—Patagon.
Syn. Orthotrichum Darwinii, Mitt.

Algæ.

Asteromphalus Darwinii, Ehrenb.—Calif.; Reg. antarct.
Syn. Asterolampra Darwinii, Grev.
Aulacodiscus Darwinii, Pant.—Russia (fossil).
Chaetomorpha Darwinii, Kuetz.—Patagon.
Syn. Conferva clavata var. Darwinii, Hook. f. et Harv.
Cheilosporum Darwinii, De Toni.—Chile.
Syn. Amphiroa Darwinii, Harv.
" Arthrocardia Darwinii, Harv.
Lithophyllum Darwinii, Fosl.—S. Australia.
Syn. Lithothamnion Darwini, Aresch.
" Melobesia Darwini, Harv.

Lichens, none noted.

Fungi.

Asterina Darwinii, Berk.—Patagon.
Cortinarius Darwinii, Speg.—Patagon.
Cyttaria Darwinii, Berk.—Reg. Magell.
Hypocopra Darwinii, Speg.—Patagon.
Lalboulbenia Darwinii, Thaxt.—Bras.
Torula Darwinii, Speg.—Reg. Magell.

II. THE COMMEMORATION AT CAMBRIDGE.

The ceremonies referred to in the introduction to this essay were initiated on the evening of June 22 by a Reception of the delegates and other invited guests by the Chancellor of the University, Lord Rayleigh, O.M., F.R.S., in the Fitzwilliam Museum, Cambridge. As most of those present on this occasion wore their academic robes, with decorations and orders, there was a variety of costume and a brilliancy of color which rendered the scene one of almost regal splendor. This function has, indeed, been described as representing the most distinguished company of scientists that has ever gathered under the shadow of the ancient university. It could, no doubt, quite correctly and more adequately be stated that an assembly of this character had never before been witnessed in any part of the world. Not only were the universities and learned societies of the British Isles fully represented, but also many similar institutions in foreign lands, including even the most distant parts of the earth, for delegates had been sent from the United States and Canada, South America, Africa, Australia and New Zealand, Austria-Hungary, Belgium, France, Germany, Greece, Holland, Italy, Norway, Sweden, and Denmark, Portugal, Spain, Russia, Switzerland, Egypt, India and Ceylon, Java, and the Straits Settlements.

The various countries above mentioned were, moreover, not represented by single delegates, but in many cases by a considerable number, for there were 28 from the United States, 30 from Germany, and 15 from France, while those from the smaller nations or more distant parts, together with the invited guests, formed collectively a large group. This great company, consisting both of old men whose eyes had grown dim over the microscope and of those younger in years who are still endeavoring to fathom the mysteries of organic life, had come, like pilgrims to the shrine of a prophet, to do homage to the memory of Darwin. It was of interest to reflect what the feelings of the great naturalist would have been if he

could have witnessed that brilliant assembly, for although there have been wonderful developments in every branch of science since the "Origin of Species" first startled the world, the celebration of the fiftieth anniversary of its publication was of such a character as to bear undisputed testimony to the fact that it was the work of Darwin which opened up the new world of biological knowledge and gave inspiration to those who followed in his steps.

The most interesting and important part of the celebration consisted of the proceedings on June 23, which were a blend of dignified ceremony and lighter social functions. In the morning, at the Senate House, the proceedings were opened by an address by the Chancellor of the University, Lord Rayleigh, after which congratulatory addresses were presented by the delegates from the various countries represented, nearly all of whom wore their academic robes. Among those participating in this ceremony were four sons of Darwin, namely: Sir George Darwin, who appeared for the Roman Academy Dei Lincei, Major Leonard Darwin, as President of the Royal Geographical Society, Mr. Francis Darwin, President of the British Association, and Mr. William Erasmus Darwin, the eldest son, as delegate for the Hartley College, Southampton. There were, furthermore, speeches by Professor Oscar Hertwig, of Berlin, Professor Elie Metchnikoff, of Paris, Sir E. Ray Lankester, of London, and Professor Henry Fairfield Osborn, of New York. The latter, in addressing the gathering, paid an eloquent tribute to the University of Cambridge and the genius of Darwin. Although his oration, for want of space, cannot be fully recorded here, the sentiments which it embodied may very briefly be indicated.

He assured them of the great privilege the delegates from the United States felt it to be of uniting in the celebration of Darwin's birth, and referred, in affectionate terms, to the maternal ties which bound the Universities of America, through Harvard, with the University of Cambridge. To no other institution in any country might they turn with such a sense of filial gratitude. The growth of the influence produced by the trans-atlantic universities upon American life was noted, and the fact that, through the survival of the best, the political guidance of the nation was passing more and more, as in the British Empire, into the hands of men who had been trained in the Colleges. A son of Yale, for example, had succeeded a son of Harvard as President of the United States. Concluding with a panegyric upon Darwin, he said that the American delegates, naturalists, and friends desired to present to Christ's College, as a memorial of their visit, a portrait

of Charles Darwin in bronze, the work of their countryman, William Couper, a portrait which they trusted would convey to this and succeeding generations of Cambridge students some impression of the rugged simplicity, as well as of the intellectual grandeur, of the man they revered and honored.

In connection with the presentation of addresses by the English delegates, Sir Archibald Geike, on behalf of the Royal Society, of which he is President, offered for the acceptance of the University a copy of the Darwin medal, which had been specially struck in gold in commemoration of this occasion.

In the afternoon of the same day a delightful garden party was given by the Master and Fellows of Christ's College, the attraction of which was further enhanced by an exhibition of objects connected with Darwin and his work, such as portraits, books, medals, diplomas, and a quite extensive collection of manuscripts and letters. One of the objects exhibited caused considerable amusement. This was a diminutive representation of a monkey, dressed in academic colors, but now somewhat mouldy with age, which irreverent undergraduates had let down from the gallery of the Senate House and suspended over Darwin's head when he received his honorary degree at Cambridge.

It was on the occasion of the garden party that the bronze bust of Darwin, already referred to, was formally presented. This little ceremony took place in the old library of Christ's College, where a small group of American delegates had assembled for the purpose. The presentation was made in a few graceful words by Professor Osborn, of New York, and the acceptance of the gift was acknowledged by a highly appreciative response on the part of the Master of the College.

One of the most distinguished of those observed in the beautiful grounds of the College on that bright summer afternoon was the venerable Sir Joseph Hooker, a most intimate and steadfast friend of Darwin, and now the doyen of British science. Although Sir Joseph has already attained the great age of 92 years, he appeared extremely happy, and entered into the spirit of the occasion with remarkable vivacity.

In the evening a grand banquet was held in the examination hall, which was attended by a company numbering about 500. Lord Rayleigh, the Chancellor of the University, was in the chair, and the principal guest was the Rt. Hon. A. J. Balfour, who proposed the toast "To the memory of Charles Darwin." This was

followed by an appreciation from Dr. Svante Arrhenius, of Stockholm, and Mr. William Erasmus Darwin, who replied, gave some charming reminiscences of his father's home life. The concluding toast was "The University of Cambridge," given by the Vice-Chancellor. After the banquet an "At Home" was held by the Master and Fellows of Pembroke College in their grounds, which were brilliantly illuminated for the occasion.

On June 24 the celebration was continued, at the Senate House, by the presentation of honorary degrees to a number of distinguished scientists. The procedure practised at Cambridge is very simple, though dignified. Each candidate is escorted in turn by the Esquire Bedell from his place, and stands in front of the Chancellor, who is attired in a gown resplendent with gold lace, while the Public Orator, standing on the Chancellor's right, makes the presentation in a Latin oration. At its conclusion he shakes hands with the candidate, the Chancellor rises, and, holding the candidate by the hand, pronounces the formula of admission. There is no capping or investiture with robes, but the newly made doctor, who already wears the gown, now takes his seat on the dais. It was an interesting circumstance that the same Public Orator, Dr. Sandys, had 31 years ago presented Darwin himself for his honorary degree.

This imposing ceremony was followed by the Rede lecture, delivered by Sir Archibald Geike, President of the Royal Society. The subject of his discourse was "Darwin the Geologist."

In the afternoon the celebration was brought to a close by a garden party given by the members of the Darwin family in the beautiful grounds of Trinity College. This was largely attended, and afforded not only the pleasure of meeting the direct descendants of the great naturalist, but also the opportunity for a final exchange of greetings, for among those earnest men of science many new acquaintanceships had been formed, while old associations had been most happily revived.

The hospitality extended by the University authorities to the delegates and other guests during their stay in Cambridge was unbounded, and the writer will ever retain a grateful recollection of the kindness received at the hands of the Master and Fellows of Emmanuel College. This institution, founded in 1584, possesses, as is well known, associations of special interest to Americans, inasmuch as John Harvard (founder of Harvard University) and

several of the Pilgrim Fathers were at one time students within its walls.

In conclusion, it need only be noted that the brief sketch which has here been given of Charles Darwin's life, and of the celebration which was designed to commemorate his scientific attainments, must necessarily be very incomplete. It is hoped, however, that, while indicating where a wider knowledge of his work may be found, it may also serve, in some slight degree, to inspire and encourage those of the younger generation who are treading in lowlier paths of research and discovery.

LONDON, August, 1909.

REPRESENTATION OF DRUGGISTS ASSOCIATIONS AT THE U. S. PHARMACOPŒIAL CONVENTION IN 1910.

BY HENRY KRAEMER.

When one looks back over the past ten years and contemplates the progress that has been made in American pharmacy during this period, he is inclined to believe that, with standards of education and of practice being established and with strong and influential associations of retail druggists being formed, whatever may be their failings, individually or collectively, the future welfare of pharmacy in the United States is assured. While it is true that very many of the local associations, as well as the National Association of Retail Druggists, were primarily organized to consider commercial problems, which by some might be held to be outside the realm of their profession, to-day the members are looking higher and discussing the fundamental problems that lie at the basis of professional advancement and efficiency. Ten years ago many of these organizations were either not in existence or were just beginning to realize the advantages of co-operation. At that time retail pharmacists in many sections were discouraged, and the practice of pharmacy had reached the low tide in its history. But to-day the retail pharmacist is becoming aggressive, and he has a strength and alertness that is both encouraging and gratifying.

Next May the United States Pharmacopœial Convention will meet in Washington. As this Convention meets but once in ten years, it has seemed to me worth while to call attention at this

time to the desirability of full representation of the various pharmaceutical organizations at the meeting. The Constitution and By-Laws of the Convention [1] should be read by the members of the various bodies and organizations, and recommendations should be formulated in advance to be presented by their delegates. Unless this is done the members of the organizations who can assist materially in the work of the next revision will not have done their whole duty in making the U. S. Pharmacopœia of 1910 the representative work that it should be—a work that reflects the practices and accords with the stage of progress of the profession, whose members are obliged to adhere to the formulæ and tests therein given and whose products must conform to its standards and pass the scrutiny of both the Government and State analysts.

In accordance with a recommendation made by the President at the meeting in 1900 the U. S. Pharmacopœial Convention became an incorporated body. According to the Constitution adopted, membership in the Convention includes delegates from the following national associations: The American Medical Association, The American Pharmaceutical Association, The American Chemical Society. The membership also includes delegates from incorporated medical colleges, and medical schools connected with incorporated colleges and universities; incorporated colleges of pharmacy, and pharmaceutical schools connected with incorporated universities; incorporated State medical associations; incorporated State pharmaceutical associations. Other organizations whose delegates "were admitted to representation in the Convention of 1900," are likewise entitled to representation.

It is thus seen that the membership of the Convention is limited to delegates from certain organizations only. But it should be pointed out that ten years ago it was difficult to foresee that other influential organizations would come into the field of pharmaceutical activity which it would be desirable to have represented. However, the Constitution provides for this contingency, and those organizations which were not admitted to membership at the 1900 meeting or are not now entitled to representation according to Article II of the Constitution, should make application for an amendment to,

[1] See page 525 for the Constitution and By-Laws of the U. S. Pharmacopœial Convention.

or alteration of the Constitution. Article VI of the Constitution reads as follows:

> Every proposition to alter or amend this Constitution shall be submitted in writing to the Board of Trustees, and, having received the votes of at least five members of the Board of Trustees, shall be published in the medical and pharmaceutical journals *at least three months before the decennial meeting of the United States Pharmacopœial Convention,* when, upon receiving the votes of at least three-fourths of the members present and voting, it shall become a part of this Constitution.

It is therefore important that the various pharmaceutical bodies not now entitled to representation take up this question at once, as no amendments to the Constitution not previously proposed, as provided in Article VI, can be voted on at the decennial meeting. While it is true that all the various organizations desiring to participate in the discussions would in all probability be given the privileges of the floor, as they were at the 1900 meeting, they would not be eligible to full membership in the Convention. That this is true is also shown by a ruling of the President of the Convention at the last decennial meeting, who in a similar case, "pointed out that such an action would necessitate a change in the Constitution." No one questions the wisdom of this decision or the provisions of the Constitution, as these make for the orderly building up of a sound, permanent, and efficient organization.

There is one other provision to be borne in mind in this connection, namely, that the association applying for membership must be "incorporated and have been in continuous operation in the United States for at least five years before the time fixed for the decennial meeting."

I merely call attention to this matter at this time that those organizations who are interested in pharmacopœial revision and who in some cases have already appointed delegates may know what is required and the manner of procedure, the Constitution not being published in full in the Pharmacopœia.

CONSTITUTION AND BY-LAWS OF THE UNITED STATES PHARMACOPŒIAL CONVENTION 1900.

CONSTITUTION.

ARTICLE I.—NAME AND OBJECTS.

SECTION 1. The corporate name of this organization shall be "The United States Pharmacopœial Convention."

SECTION 2. Its objects shall be those declared in its Certificate of Incorporation, and shall include the revision and publication of the Pharmacopœia of the United States of America.

ARTICLE II.—MEMBERSHIP.

SECTION 1. The members of the United States Pharmacopœial Convention, in addition to the Incorporators and their associates, shall be delegates elected by the following organizations in the manner they shall respectively provide: Incorporated Medical Colleges, and Medical Schools connected with Incorporated Colleges and Universities; Incorporated Colleges of Pharmacy, and Pharmaceutical Schools connected with Incorporated Universities; Incorporated State Medical Associations; Incorporated State Pharmaceutical Associations; the American Medical Association, the American Pharmaceutical Association, and the American Chemical Society; provided that no such organization shall be entitled to representation unless it shall have been incorporated within and shall have been in continuous operation in the United States for at least five years before the time fixed for the decennial meeting of this corporation.

SECTION 2. Delegates appointed by the Surgeon-General of the United States Army, the Surgeon-General of the United States Navy, and the Surgeon-General of the United States Marine Hospital Service, and by the organizations not hereinbefore named which were admitted to representation in the Convention of 1900, shall also be members of the corporation. Each body and each branch of the United States Government above mentioned shall be entitled to send three delegates to the meetings of this corporation. But no such delegates as are provided for in this article shall be members until their credentials shall have been examined and acted

upon as provided for by the By-Laws. Delegates admitted as members at any decennial meeting shall continue to be members of the United States Pharmacopœial Convention until their successors shall have been appointed and admitted as delegates to the ensuing Convention and no longer.

Article III.—Officers.

The officers of the United States Pharmacopœial Convention shall be a President, five Vice-Presidents, a Secretary and an Assistant Secretary, and a Treasurer, to be elected by ballot at each decennial meeting. The Board of Trustees (or Directors) named in the certificate of incorporation, or their successors, shall elect these officers to serve until the first regular decennial meeting and until their successors shall have been elected and qualified.

Article IV.—Committees and Trustees.

The members of the United States Pharmacopœial Convention shall also at each decennial meeting elect a Nominating Committee, a Committee of Revision, and a Board of Trustees. Until the first decennial meeting, the Board of Trustees shall be the persons named as such Board in the certificate of incorporation, who shall serve as such Trustees until their successors shall have been elected and qualified. The By-Laws shall provide for the method of election and shall prescribe the duties of said Committees and Board of Trustees. The Board of Trustees named in said certificate, or their successors, shall also appoint all other committees that may be required for the operation of the corporation until its first decennial meeting.

Article V.—Meetings.

The regular meetings of this corporation shall be held once in ten years. The time of holding the decennial meeting shall be upon the second Tuesday in May, in the first year in each decade ending in zero, and the place of meeting shall be in the City of Washington, D. C. The first decennial meeting shall be held in the year 1910.

Article VI.—Amendments.

Every proposition to alter or amend this Constitution shall be submitted in writing to the Board of Trustees, and having received

the votes of at least five members of the Board of Trustees, shall be published in the medical and pharmaceutical journals at least three months before the decennial meeting of the United States Pharmacopœial Convention, when, upon receiving the votes of at least three-fourths of the members present and voting, it shall become a part of this Constitution.

BY-LAWS.

Chapter I.—Of the President and Vice-Presidents.

Article I. The President shall preside at all meetings of the United States Pharmacopœial Convention until his successor shall have been elected. In the event of his absence or inability to serve, one of the Vice-Presidents, or in the absence of all, a President *pro tempore,* to be elected by the Board of Trustees, shall perform the duties of the President.

Article II. In the absence of the Secretary and Assistant Secretary, the President shall appoint a Secretary *pro tempore.*

Article III. At each session of every meeting the President shall take the chair at the proper time, announce all business, receive all motions, resolutions, reports, and communications, and order the vote upon all proper questions.

Article IV. In all balloting, and on questions upon which the ayes and nays are required, the President is required to vote, but his name shall be called last; in other cases he shall not vote unless the members be equally divided, or unless his vote, if given to the minority, will make the decision equal; and in case of such equal division the motion is lost.

Article V. He shall enforce order; it is his duty to hear all that is spoken in debate, and in case of personality and impropriety he shall promptly call the speaker to order. He shall decide all questions of order, subject to the right of appeal, unless he should prefer to submit the matter to the meeting; decide promptly who is to speak when two or more members rise at the same moment, and be careful to see that business is brought forward in the proper order.

Article VI. He shall have a right to call a member to the chair in order that he may take the floor in debate. He shall see that the Constitution and By-Laws are properly enforced.

Article VII. He shall appoint all committees not otherwise

provided for; and authenticate by his signature, when necessary, the proceedings of the Convention.

ARTICLE VIII. He shall issue, on or about the first of May of the year immediately preceding that of the decennial meeting, a notice inviting the several bodies, entitled under the Constitution to representation therein, to send delegates to the next meeting. He shall repeat the notification eight months later, and shall request the medical and pharmaceutical journals of the United States to publish the call for the said meeting.

ARTICLE IX. He shall present at each decennial meeting an address, embodying such subjects as may seem to him suitable to the occasion.

CHAPTER II.—OF THE SECRETARY AND ASSISTANT SECRETARY.

ARTICLE I. The Secretary shall keep the minutes of each meeting and carefully preserve all reports, essays, and papers of every description presented to the said meeting and hold them subject to the order of the Board of Trustees.

ARTICLE II. He shall read all papers handed to him for that purpose by the President, and shall record the ayes and nays when required; he shall notify the Chairman and members of every committee of their appointment, giving the Chairman a list of his colleagues, and stating the business upon which the committee is to act.

ARTICLE III. He shall act as Secretary of the next ensuing meeting until his successor shall have been elected and qualified.

ARTICLE IV. It shall be the duty of the Assistant Secretary to aid the Secretary in his official duties, or, in the absence of the latter, to act as his substitute.

CHAPTER III.—OF THE TREASURER.

ARTICLE I. The Treasurer shall receive all moneys coming from any source to the corporation, Board of Trustees, or Committee of Revision, and shall pay out such moneys as may be directed by the Board of Trustees.

ARTICLE II. He shall pay no moneys except on the written order of the Board of Trustees. All bills must be accompanied by proper vouchers and all payments shall be by checks, and such checks drawn by the Treasurer for the payment of moneys shall

be countersigned by the Chairman of the Board of Trustees to become valid.

ARTICLE III. The Treasurer shall present a report at the decennial meeting of the United States Pharmacopœial Convention showing the receipts and disbursements during his term of office, and he shall present annually a report to the Board of Trustees showing the receipts and disbursements. His reports, in all cases, must be properly audited and placed on file. He shall act as Treasurer until his successor shall have been elected and qualified.

ARTICLE IV. The Treasurer, in order that he may qualify for his office, shall procure and file a sufficient bond or bonds to the amount of ten thousand dollars with the President of the United States Pharmacopœial Convention for the faithful performance of his duties as Treasurer. This bond or bonds to be signed and executed by a trust company acceptable to the Board of Trustees. The expense attending the procurement of the bond shall be paid by the United States Pharmacopœial Convention.

ARTICLE V. Any vacancy occurring in the office of Treasurer shall be filled in the same manner as a vacancy occurring in the Board of Trustees.

CHAPTER IV.—OF THE TRUSTEES.

ARTICLE I. The Board of Trustees shall consist of five delegates to be elected by the members of the Convention at each decennial meeting, together with the President of the Convention and the Chairman of the Committee of Revision. Four members shall constitute a quorum. Until such Board shall have been elected the Board of Trustees shall consist of those persons named as such in the certificate of incorporation or their successors.

ARTICLE II. The Board of Trustees shall have the management and control of the affairs and funds of this Convention, except as is herein otherwise provided. It shall be the duty of the Board of Trustees to invest the funds of the Convention, to execute any and all legal contracts or agreements for the publication of the Pharmacopœia, to pay experts and others for services performed, to transact business involving financial or other matters that may be for the best interests of the Convention, and to perform such other duties as the Convention may from time to time direct.

ARTICLE III. Vacancies occurring in the Board of Trustees

shall be filled by the Board of Trustees and the officers of the Convention jointly. A majority of the votes of the whole number shall be necessary to elect a member to fill the vacancy, and only accredited and admitted delegates to the last preceding decennial meeting shall be eligible for election for the vacancies on the Board of Trustees.

ARTICLE IV. The officers of the Board of Trustees shall consist of a Chairman and a Secretary, who shall be elected by ballot by the Board. A majority of the votes of the Board shall be sufficient to elect. The Secretary need not be a member of the Board of Trustees. The Secretary shall issue in writing a notice of each meeting.

ARTICLE V. There shall be an annual meeting of the Board of Trustees, unless in any year such meeting shall have been declared unnecessary by a special vote of the Board. For the taking of such vote and for other matters, the Board shall have the right to transact business by correspondence. Special meetings of the Board of Trustees shall be called upon the written request of at least three members, and the Chairman shall have the power to call a special meeting whenever he shall deem it necessary. The members of the Board of Trustees shall receive no compensation for their services, but travelling and other necessary expenses which may be incurred by them shall be paid from the funds of the Convention.

CHAPTER V.—OF THE COMMITTEE OF REVISION.

ARTICLE I. The Committee of Revision shall consist of twenty-five members to be elected at the decennial meeting, together with the President of the Convention, *ex officio*. The business of the Committee may be transacted by correspondence.

ARTICLE II. The Committee of Revision shall execute such orders or resolutions as have been assigned to it by the Convention, and have entire charge of the preparation of the manuscript and reading of proof for the revised Pharmacopœia. It shall also be authorized to carry on research work and to make preparation for the ensuing revision.

ARTICLE III. The Committee shall elect a Chairman, two Vice-Chairmen, and a Secretary, to serve until their successors are elected. The Chairman shall direct the work of revision, receive and announce the votes, attend to the correspondence, and prepare

the final manuscript of the work. A vacancy occurring in the office of Chairman shall be filled by the votes of the Committee, a majority of the whole number being necessary to elect.

ARTICLE IV. The Chairman of the Committee of Revision shall receive such salary for his services as may be determined by the Board of Trustees. He shall appoint all subcommittees, research committees, and experts with the advice and consent of the Committee of Revision, and shall present to the decennial meeting a report of the work of the Committee of Revision, and shall hold office until his successor is elected. The Committee of Revision shall receive such nominal compensation for their services as the Board of Trustees shall direct.

ARTICLE V. The members of the Committee of Revision shall be elected for their especial fitness and technical knowledge of the various subjects required for the proper revision of the work, and shall hold office until their successors are appointed. Vacancies in the Committee of Revision may be filled, by election by ballot, by the Committee of Revision.

CHAPTER VI.—OF THE NOMINATING COMMITTEE.

ARTICLE I. The Nominating Committee shall be selected from the delegates present at the decennial meeting, each delegation designating one of its members to serve on this Committee.

ARTICLE II. The Nominating Committee shall nominate the officers of the Convention, the Board of Trustees, and the Committee of Revision for the ensuing ten years.

CHAPTER VII.—OF THE COMMITTEE ON CREDENTIALS AND ARRANGEMENTS.

ARTICLE I. The Committee on Credentials and Arrangements shall consist of five members, and shall be appointed by the President from among the delegates to the decennial meeting, not less than two months before the meeting.

ARTICLE II. It shall be their duty to examine carefully the credentials of all delegates. Immediately before the meeting of the Convention they shall furnish to the President a roll containing the names of the Incorporators, the Officers of the Convention, the Board of Trustees, the Committee of Revision, and of those delegates whose credentials are unquestioned and approved. They shall also make report to the Convention concerning all credentials

which have been questioned, or appear to them to be of doubtful validity.

ARTICLE III. This Committee shall continue in office until their successors are appointed, and shall be charged with the duty of making the necessary arrangements for holding the said decennial meeting. The President, Secretary, and Assistant Secretary of the Convention shall be *ex officio* members of the Committee.

ARTICLE IV. Vacancies in this Committee shall be filled by appointment by the President of the Convention.

CHAPTER VIII.—OF MEMBERS.

ARTICLE I. Every delegate shall present his credentials to the Committee on Credentials and Arrangements, and, upon report by that Committee that such credentials are unquestioned, shall be admitted to a seat in the Convention. All cases of doubtful or disputed credentials shall be finally settled by the Convention after report upon them shall have been made by the Committee on Credentials. Delegates who are not present at the Convention shall not be considered members, but alternates of such absent delegates, if present, may be members subject to the foregoing provisions. In no case, however, shall any body be represented by more than three delegates. Each member shall be entitled to only one vote in the Convention upon all questions.

ARTICLE II. Resignations of membership shall be made, in writing, to the Secretary. All resignations shall be acknowledged, in writing, by the Secretary, and shall be reported to the Board of Trustees.

ARTICLE III. Any member may be expelled for improper conduct or for violation of the Constitution or By-Laws by a vote of not less than two-thirds of the members present and voting.

CHAPTER IX.—OF MEETINGS.

ARTICLE I. The regular decennial meetings of the Convention shall be held upon the second Tuesday in May every tenth year as provided in the Constitution, and the place of meeting shall be in the City of Washington, D. C. Twenty-five members shall constitute a quorum.

ARTICLE II. The order of business at the first session of each decennial meeting shall be as follows:

Section 1. Promptly at the time named in the notice issued for the meeting the President or, in his absence, one of the Vice-

Presidents or, in their absence, a President *pro tempore,* shall organize the Convention by calling the roll furnished to him by the Committee on Credentials and Arrangements.

Section 2. In the absence of the Secretary and Assistant Secretary, the President shall appoint a Secretary *pro tempore.*

Section 3. The President's address may then be read.

Section 4. The report of the Committee on Credentials and Arrangements shall then be considered.

Section 5. The Secretary shall then call the roll of bodies entitled to send delegates, and the delegation from each body shall designate one of its number who may be present to serve upon the Nominating Committee.

Section 6. Incidental business.

ARTICLE III. The order of business at the second session of each meeting of the Convention shall be as follows:

Section 1. The President shall call the meeting to order.

Section 2. The Secretary shall read the minutes of the preceding meeting, which may be amended if necessary, and shall then be approved.

Section 3. The report of the Committee on Nominations shall be received, and the Convention shall proceed to the election, by ballot, of the officers of the Convention, the Board of Trustees, and the Committee on Revision.

Section 4. The President shall announce the result of the ballot and install the officers-elect.

Section 5. Discussion on general principles to govern the action of the Committee of Revision shall next be considered.

ARTICLE IV. The order of business for subsequent sessions shall be determined as the Convention may direct.

CHAPTER X.—OF THE CORPORATE SEAL.

ARTICLE I. The seal of the corporation shall contain the words: United States Pharmacopœial Convention. Corporate—1900—Seal, D. C.

CHAPTER XI.—OF AMENDMENTS.

ARTICLE I. Every proposition to alter or amend these By-Laws shall be submitted in writing, and may be acted upon at any subsequent session of the meeting, when, upon receiving the votes of at least three-fourths of the members present and voting, it shall become a part of these By-Laws.

PHARMACEUTICAL WINDOW DISPLAY.

By Otto Raubenheimer, Ph.G., Brooklyn, N. Y.

During the recent Hudson-Fulton celebration in New York the thought occurred to me: What is the most important event in Dutch history, especially from a pharmaceutical standpoint?

This question I answered to my satisfaction as follows: The transplanting of cinchona, which was getting exterminated, from South America to Java in 1854.

Thereupon I arranged in one of my show windows the cinchona display, which I have partly sent you. The display is self-explanatory.

The house in the centre of the window was built from boards, and the sides were then covered with cinchona bark in quills and the roof with flat pieces of cinchona calisaya, and thus it represented a log cabin. A red incandescent lamp gave the appearance of a fire within the cabin at night.

I wish to call special attention to the illustrations on the largest cardboard, which are taken from a historical study, "Cinchona in the Past and Present," by P. Van der Wielen in the *Pharmazeutisch Weekblad.*

Of special interest is the "largest shipment of over one million kilo of pharmaceutical bark," which arrived in Amsterdam, the principal market of the world, on January 28, 1904.

A study or comparison of the drawings of the French astronomer de la Condamine (1738) and of the French pharmacist Nicolas Lémery in his "Traité de Drogues et Simples," as found in the Dutch translation by Van Putten and Isaac de Witt (1743). This last illustration, "kina-kina," proves the confusion which existed between the fruit of the "quina" tree and that of the "Peruvian balsam" tree. The fruit in Lémery's drawing resembles more the latter. In fact the words "quina-quina" (from which the French "quinquina" and our English "quinine" are derived, as explained in one of the placards) means "bark of the bark" (of the Peruvian balsam tree) in the language of the Quichúo dialect. Another example of the manner in which these two trees were confounded is found in the fable of La Fontaine entitled "Le Quinquina" (1682), in which he speaks of the fruit of this tree as

containing seeds, which furnish a balsamic substance that is excellent in the treatment of all kinds of wounds.

Of further interest are the illustrations of the town of Chinchon near Madrid, Spain, and the ruins of Castle Chinchon and also of the nine great chinologists or quinologists, or perhaps still better, cinchonologists. On the extreme right in this picture is the German botanist Justus Carl Haskarl, who deserves special credit on account of transplanting the cinchona trees from South America to Java for the Dutch government.

The controversy over the spelling of the name "cinchona," the English botanist Clem. Rob. Markham claiming that in honor to the Countess of Chinchon the tree should be called "chinchona," was definitely settled at the Botanical Congress held in London 1866, by officially adopting the word "cinchona."

The illustration of the laboratory of the French chemists Pelletier and Caventou in which quinine was discovered in 1820 must appeal to every pharmacist, and as this event dates back to about the same time as the founding of the Philadelphia College of Pharmacy (1821), the oldest in the U. S., we can therefore justly say that quinine is as old as the Philadelphia College of Pharmacy, or vice versa.

In connection with this I beg to mention that Mr. Ewen McIntyre, one of the founders of the A. Ph. A., told me a short time ago that he remembers Pelletier's quinine sulphate when it sold for $25 per ounce in the American market.

In conclusion I wish to bring forth the point that even a little knowledge of pharmaceutical history can be utilized with advantage by the pharmacist in preparing interesting pharmaceutic-historical window displays, displays which are educational, displays which must necessarily impress the public as well as the physician, and which therefore are bound to raise the estimation and confidence in the pharmacist and improve his standing in the community. Such window displays are much more appropriate for a pharmacy and are far superior to the ordinary displays of patent cure-alls or toilet paper, so commonly seen in the show windows of so-called drug stores. How ethical (!) and how esthetical (!) these latter displays are, I leave to the judgment of the reader.

Last, but not least, it might also be well for the colleges of pharmacy to include in their curriculum a course of pharmaceutical

history and thereby plant in the student the seed which will develop the love for the *profession* of *pharmacy*.

In order that my words will not be misconstrued, permit me to state that I am *not* looking for a "job."

ABSTRACTS OF SOME OF THE PAPERS PRESENTED TO THE PENNSYLVANIA AND NEW JERSEY STATE PHARMACEUTICAL ASSOCIATIONS.

By John K. Thum, Ph.G.,

Apothecary at the German Hospital, Philadelphia.

The annual meeting of the Pennsylvania Pharmaceutical Association held last June was remarkable for the large number of papers and answers to queries that were read before that progressive State organization. Another State organization that did some good work in that direction was our neighbor, the New Jersey Pharmaceutical Association.

The following abstracts of some of the papers read were prepared from the published proceedings of the respective associations:

A Method for Confirmation of the Presence of Saccharin in Foods and Beverages.

By F. A. Genth, Jr.

In the examination of a number of carbonated beverages the author used a modification of the confirmation of the presence of saccharin by the well-known method of its conversion into salicylic acid.

The absence of salicylic acid having been proven in a part of the residue from an ethereal extract, the remainder was dissolved in 1 c.c. of water made slightly alkaline with ammonia, transferred to a small crucible and evaporated to incipient dryness. A drop or two of water and a very small piece of sodium hydroxide were then added, and the whole quickly heated to dryness; when dry, the mass was further heated until fusion took place; after cooling, 1 c.c. of water was then added, and the larger portion of alkali neutralized with dilute acid (either HCl or H_2SO_4). After adding one or two drops of a 1 per cent. ferric alum solution, the neutralization was

continued by dropping the acid from a fine pipette and stirring the solution. Where large amounts of saccharin were present the violet color could be seen at the point of neutrality; in small quantities this point is frequently missed, but a careful back titration with a very dilute alkaline solution (very dilute ammonia, 1–20) generally indicated its presence.

In case of negative results or where further verification is necessary, the solution may be acidulated, and extracted in a separatory funnel with 10 c.c. of ether, washed, concentrated, and tested in the usual manner.

The author claims that at least four milligrammes of saccharin in a litre can be detected with certainty in 50 c.c. of a solution subjected to this method of analysis.—Pa. Pharm. Assoc.

Detection of Bombay Mace.

By James W. Gladhill.

Bombay mace is the dried arillus of Myristica malabarica Lamarck. It is from 2.5 to 5 cm. in length and of varying width, more or less pointed at the apex, coloring from light to dark red, and of a waxy appearance. The odor of volatile oil of mace is absent. Prior to the enactment of the Food and Drugs Act, most manufacturers used it extensively to cheapen their products. At the present time some of the smaller concerns are using it in reduced quantities.

The author gives a method which he claims is the quickest and surest way of detecting Bombay mace when it is mixed with other mace. An alcoholic extract of the suspected material is made by macerating 1 Gm. of the substance in 10 c.c. of alcohol for two hours and filtering.

Five c.c. of solution of chlorinated soda is poured into a test-tube and 2 or 3 c.c. of the alcoholic extract carefully allowed to run down the inside of the tube; if Bombay mace is present, a bright red color will appear at the point of contact. The color does not remain long, especially when the amount of adulterant is less than 5 per cent.; when less than 1 per cent. it disappears very rapidly.

The author states that by this method as little as one-fiftieth of 1 per cent. of Bombay mace can be detected.—Pa. Pharm. Assoc.

The Fluidextract Question.

By Frederick J. Blumenschein.

This paper is worthy of a careful perusal by all pharmacists because it proves the old saying, that " where there's a will, there's a way." A man can only become and remain a pharmacist by practicing pharmacy. The author states that, " the manufacturers of fluidextracts have so often impressed upon the druggist his (the druggist's) inability to make and assay his own fluidextracts that he has come to believe in it to such an extent that he buys all his fluidextracts with the firm conviction that time and money are saved."

Further on, the author shows the fallacy of such statements. With the exception of two, he says, *all* of the U.S.P. fluidextracts can be made in quantities of one-half pound or more cheaper than they can be bought from manufacturing houses.

He states that the argument of the salesman that his fluidextracts do not precipitate is not true, as all of them precipitate more or less upon aging and exposure to light and air. The reason the large manufacturers' fluidextracts do not throw down precipitates after they are on the retail druggist's shelves is that they have all been carefully aged and filtered; this requiring from two months to a year's time. A fluidextract may have been assayed chemically and physiologically and brought to standard when made, but some drugs, like digitalis, deteriorate.

The author then goes on to speak of a number of fluidextracts which he made and mentions with some detail how economy can be advantageously practiced.—Pa. Pharm. Assoc.

Elixir of Gentian, N.F.

By George M. Beringer.

The author claims that the process recommended in the National Formulary for removing the tannin-like principle in the gentian by treatment with ferric hydroxide is not only unnecessary but harmful in so far that it destroys or extracts a considerable portion of the flavor.

When following the N.F. instructions, an examination of the magma on the filter will reveal a marked odor and taste of gentian and also show that the aromatics are extracted from the elixir

and retained in the precipitate. This "detannating" of the gentian is done so that it may be used in preparations containing iron, particularly with the other gentian elixirs of the N.F. containing iron. The writer found that this method is unnecessary. By using an alkaline citrate this tendency of iron salts to blacken when used in connection with gentian was avoided. He submits the following as an improvement and substitute for the present N.F. formula:

Elixir Gentianæ.

Fluidextract of gentian	35 c.c.
Compound spirit of cardamom	15 c.c.
Sodium citrate	30 Gm.
Glycerin	50 c.c.
Syrup	250 c.c.
Alcohol	200 c.c.
Purified talc	20 Gm.
Water, a sufficient quantity to make	1000 c.c.

Dissolve the sodium citrate in 350 c.c. of water. Add to this solution the fluidextract of gentian and then the glycerin. Mix the compound solution of cardamom and the alcohol, and gradually add to this the other solution, shaking well after each addition. Then add sufficient water to make the product measure 1000 c.c. Add the talc and filter.

The author states that by this method elixir of gentian can be easily and rapidly made and that it is more agreeable in taste, with all the advantages of a "detannated" elixir.—Pa. Pharm. Assoc.

U.S.P. Exsiccated Salts and Their Preservation.

By Charles H. LaWall.

The writer states that the phenomena of efflorescence and deliquescence are now known to be due to vapor tension. That certain simple substances, as the alums for instance, have a tendency to lose water of crystallization owing to the high vapor tension of the water of crystallization in the alum, but when two of these isomorphous alums are mixed they keep very well by reason of the vapor tension of the water in each having been lowered by the influence of the other alum dissolved in it. Therefore many official substances, either hydrated or anhydrous, are in a constantly changing condition due to the surrounding atmospheric conditions, and in some instances, probably, to impurities which may be present.

The amount of change one of these unstable substances will undergo when subjected to certain conditions of temperature or atmosphere is a problem that sometimes needs answering.

Samples of exsiccated salts were purchased in the market with the view of making experiments as to the amount of moisture these substances contained. The writer says that U.S.P. exsiccated salts were difficult to obtain, that in most cases salts known as "dried and powdered" were substituted without anything being said to the purchaser; that is to say, if a pharmacist specifies on his order, "sodium phosphate exsiccated," he will receive a carton usually marked "sodium phosphate, dried and powdered;" instead of being anhydrous, as required by the Pharmacopœia, an examination will show it to contain from 15 to 20 per cent. of moisture. This substitution by the manufacturer has become so common that many pharmacists believe the terms to mean the same thing, a condition which some manufacturers encourage by having the word "exsiccated" as a synonym of "dried and powdered," upon the package.

The following salts were tested for the percentage of moisture, which proved to be as follows: sodium carbonate, 4.01 per cent.; sodium phosphate, 17.70 per cent.; sodium sulphate, 4.10 per cent.; ferrous sulphate, 2.15 per cent.; exsiccated alum, 9.9 per cent. Further experiments were carried out by making these salts perfectly anhydrous and noting the amount of moisture absorbed in a certain period, which proved to be considerable. The writer proves beyond doubt the necessity of the pharmacist investigating his exsiccated salts when he buys them, and the necessity of keeping them in moisture-proof containers while in stock.—Pa. Pharm. Assoc.

The Solubility of Official Substances.

By M. I. Wilbert.

The author states that one of the problems that must receive careful consideration, if the U.S.P. is to become the accepted standard for materials used as medicines by American physicians, is the manner of stating the solubility of official substances; that the information is not, at the present time, given in a sufficiently practical manner to meet the needs of physicians, or of being memorized by medical or pharmaceutical students.

He says that the assertion that apomorphine hydrochloride is soluble in 39.5 parts of water, in 38.2 parts of alcohol, in 1864

parts of ether, and in 3800 parts of chloroform at 25° C. (77° F.) is a mass of information that for practical purposes is difficult to remember and if remembered difficult to apply; and suggests that for all practical purposes the use of certain expressions, if properly defined, would be sufficient. For all ordinary purposes he advises the inclusion of the following definitions in the Pharmacopœia.

Articles that are soluble in less than

1 part of solvent = very soluble.
1–10 parts of solvent = freely soluble.
10–100 parts of solvent = soluble.
100–1000 parts of solvent = slightly soluble.
1000–10,000 parts of solvent = very slightly soluble.
10,000–100,000 parts of solvent = nearly insoluble.
More than 100,000 parts of solvent = practically insoluble.

The same definition is stated in another form as follows:

100 c.c. of solvent will dissolve:
100 Gm. or more of a " very soluble " substance.
10 to 100 Gm. of a " freely soluble " substance.
1 to 10 Gm. of a " soluble " substance.
0.1 to 1 Gm. of a " slightly soluble " substance.
0.01 to 0.10 Gm. of a " very slightly soluble " substance.
0.001 to 0.01 Gm. of a " nearly insoluble " substance.
Less than 0.001 Gm. of a " practically insoluble " substance.

Exact information, the writer states, regarding solubilities could be tabulated in the appendix, as is done in the Belgian Pharmacopœia. This would be an incentive for concerted effort to correct and correlate data regarding solubilities. As an illustration of the need for such work he gives the solubility of acetanilid in cold water and cold alcohol, as published in twelve well-known books.

Solubility of acetanilid as given in these books, usually without temperature qualifications:

	U. S. P.	B. P./C.	Ph. Bri. Ph. Hisp.	Ph. Md.	Ph Helv. Cordex.	Ph. Germ. Ph. Belg. Ph. Dan. Ph. Svec	Ph. Austr.
Sol. in water.....	179	190	200	210	220	230	250
Sol. in alcohol....	2.5	4	3.5	3.6	3.5	3.5	3.5

Pa. Pharm. Assoc.

Compound Tincture of Gentian.

By Bloomfield Hulick.

The author states that the change of the menstruum from diluted alcohol to a stronger alcoholic menstruum, while of some help in preventing precipitation of the U.S.P. tincture, yet it does not accomplish all that was expected. Some experiments made by percolating the drug with the addition of glycerin to the menstruum showed a preparation of decided superiority over the present formula. One preparation made with 120 c.c. of glycerin to each 1000 c.c. gave a clear tincture that showed no precipitate after standing three months.—N. J. Pharm. Assoc.

Some of the Syrups of the U. S. Pharmacopœia and National Formulary.

By George M. Beringer and George M. Beringer, Jr.

The writers give the results of a series of experiments upon some official syrups with the object in view of establishing formulas by which the pharmacist can manufacture all of his syrups from the drugs without depending upon the manufacturing pharmacists. In the preparation of their syrups most foreign pharmacopœias keep this desirable object always in mind. It was also decided by the authors to see if the use of fluidextracts could be eliminated in the preparation of syrups.

The preparation of syrups from fluidextracts causes considerable precipitation in many of them because of the alcohol present, which extracts from the drugs extractive and resinous matter; the small amount of alcohol generally encourages fermentation.

The successful use of glycerin and water as a menstruum in extracting many drugs proves that alcohol is unnecessary and the authors sought to determine how far this method would answer in the preparation of syrups. That glycerin has an inhibitory action upon some forms of decomposition that occur in syrups is a fact that our own Pharmacopœia recognizes in so far that it directs its use in several of them. This fact was recognized in the last revision of the Pharmacopœia Helvetica, which directs the use of glycerin in quite a number of syrups.

The authors give in detail a considerable number of formulas for syrups that are, they say, the results of many experiments.

The following formula and directions for preparing syrup of ipecac will show the lines along which the authors have been working:

Powdered ipecac	70 Gm.
Acetic acid	10 c.c.
Glycerin	100 c.c.
Sugar	750 Gm.
Water, a sufficient quantity.	

Percolate the ipecac with a mixture of the acetic acid, glycerin, and 290 c.c. of water, and then continue the percolation with water till 600 c.c. of percolate is obtained. In this dissolve the sugar, add sufficient water to make the product measure 1000 c.c.—N. J. Pharm. Assoc.

Notes on the Volatile Oils of the U.S.P.

By Charles H. LaWall.

The writer states that there is no class of official substances about which the retail pharmacist is more at the mercy of the manufacturer than that of volatile oils.

Some observations upon facts in connection with volatile oils are presented in the hope that they may be of value to the busy pharmacist.

Oil of Bitter Almond.—Care should be taken to differentiate between the legal uses to which the several products practically identical with this oil may be put. For medicinal use, the official oil containing hydrocyanic acid must be used, but for flavoring purposes the natural oil deprived of hydrocyanic must be used, according to Circular 19 of the U. S. Department of Agriculture. This leaves benzaldehyde, the artificial product which is also official, in an anomalous position, as it cannot be used for either purpose.

Oil of Anise.—The tests can be readily applied by any pharmacist without the use of much time or material. Congealing points and tests for alcohol and solubility in 90 per cent. alcohol are the most important.

Oil of Orange Peel.—The pharmacist must depend principally upon the physical characters of this oil, as the test for pinene, nitrosochloride and nitrosopinene requires the services of a skilful analyst and proper laboratory facilities.

Oil of Sweet Birch, Oil of Wintergreen, and Methyl Salicylate.—The polariscope is the only means of differentiation officially given and is not conclusive nor always possible of application by the retail pharmacist.

Oil of Caraway.—With the exception of the polariscope test, the pharmacist can readily apply the others satisfactorily.

Oil of Cloves and Oil of Pimenta.—The assay for eugenol is simple, a long necked flask graduated in 1–10 c.c. being the only apparatus required.

Oil of Chenopodium.—The constants and tests have been omitted in the corrected edition of the U.S.P., therefore must be judged by its physical characters.

Oil of cinnamon can be easily tested, the quantitative determination of cinnaldehyde made by using graduated flask as mentioned under oil of cloves. The sodium bisulphite used should be fresh, if proper results are to be obtained, difficulties met with in this estimation generally being due to lack of care in this respect.

Oils of copaiba, coriander, cubeb, erigeron, fennel, hedeoma, juniper, lavender flowers, myristica, savin, sassafras, spearmint, and tar, with the exception of the polariscope test, can be readily tested by the pharmacist.

Oil of Eucalyptus.—The physical properties and test for phellandrene-containing oils is all that the pharmacist has upon which to judge, the other testing requiring laboratory facilities and skilful manipulation.

The citral test under *oil of lemon* is one requiring skilful manipulation and the writer advises the pharmacist not to waste his time with it.

Oils of Peppermint, Rosemary, and Sandalwood.—The acetylization test is so complicated and requires so much special apparatus that none but skilled laboratory workers can satisfactorily apply it.

Oil of rose is not difficult to test but rather expensive, as from 5 to 10 c.c. of the oil is needed. Better for the pharmacist to rely upon the guarantee of his wholesaler.

Oil of Mustard.—The assay for allylisothiocyanate takes up too much time; the other tests are not too difficult for the average pharmacist.

Oil of Turpentine.—Tests are easily applied, but there is necessity for a time limit in connection with the test for hydrocarbon oils. If the mixture is allowed to stand over night to separate, no oil

will be found that will answer the requirements. The writer says that the volume of undecomposed material remaining after a half hour's standing should be taken as the index of the amount of foreign oils of this character.

Oil of Thyme.—Except for the necessity for a burette in estimating the separation of non-phenol oil remaining after decomposition with sodium hydroxide, no unusual apparatus is needed.

The author goes on to say that of the thirty-four volatile oils in the Pharmacopœia, only ten require apparatus or skill not usually possessed by the pharmacist. Even when an oil answers all tests the pharmacist should make its last analysis be its physical attributes of odor and flavor.—N. J. Pharm. Assoc.

The Rapidity of Volatilization of Camphor.

By Charles H. LaWall.

"Manufacturers of such preparations as camphorated oil and spirits of camphor, whose products are found to be below strength, frequently attempt to defend themselves against the charge of wilfully violating the law by claiming that the deficiency in strength has been caused by volatilization of the camphor in the preparation, owing to its having stood on the shelves for a long time." The author states that in order to determine if the foregoing is true he undertook a few experiments for determining the rapidity of the volatilization of camphor and preparations of it. Camphor, both powdered and lump, was exposed to the atmosphere in a large closet. The following tabulation gives the results:

Lump Camphor—Amount taken, 3.853 Gm.

Loss after 24 hours,	0.060 Gm.,	or 1.56	per cent.
Loss after 4 days,	0.337 Gm.,	or 8.74	per cent.
Loss after 14 days,	0.904 Gm.,	or 23.46	per cent.
Loss after 28 days,	1.670 Gm.,	or 43.34	per cent.
Loss after 45 days,	2.387 Gm.,	or 61.95	per cent.

Powdered Camphor—Amount taken, 2.00 Gm.

Loss after 24 hours,	0.176 Gm.,	or 8.8	per cent.
Loss after 4 days,	0.666 Gm.,	or 33.3	per cent.
Loss after 14 days,	1.674 Gm.,	or 83.7	per cent.
Loss after 20 days,	1.998 Gm.,	or 99.9	per cent.

This shows that powdered is much more rapidly volatilized than lump camphor. Official camphor liniment, verified by a polariscope examination, was subjected in an uncorked bottle to a temperature of 40° C. After fourteen days the strength was estimated to be 19.75 per cent. and at the end of a month 19.21 per cent. A part of the preparation exposed to ordinary room temperature in an uncorked bottle for a month showed a loss of less than 0.25 per cent. Official spirit of camphor, the strength having also been verified with the aid of the polariscope, showed at the expiration of fourteen days an increase of camphor content from 10 Gm. in 100 c.c. to 11.47 Gm. in 100 c.c. At the end of one month it showed an increase to 12.04 Gm. in 100 c.c.

The above results, the author states, indicate that, while camphor itself is rapidly volatilized, the preparations of it are not sufficiently altered to justify a manufacturer resorting to such a defense.—N. J. Pharm. Assoc.

REPORT OF THE RICHMOND MEETING OF THE N. W. D. A.

By Clarence M. Kline.

I have been asked to present at this meeting a brief article on the annual meeting of the N.W.D.A. which was held recently in Richmond.

As is to be expected, most of the business transacted there applies only to the wholesale drug trade and would not be of interest to this gathering.

The report of the Committee on "Standards and Tests" provoked much favorable comment and proved to be of much interest to the wholesale association. This report quoted a portion of the remarks by Prof. Oldberg delivered at the recent meeting of the American Pharmaceutical Association, with which you are doubtless familiar, as follows: "It is remarkable that the Congress of the United States should have made a legal standard of the National Formulary, prepared, owned, and published by an association which has the power to change its book any day, or to reduce its scope, or add to it, or suspend its publication altogether. It was a ridiculous mistake which will, of course, be corrected sooner or later." The committee commented as follows: "It is the opinion of your committee that in voicing the above Prof. Oldberg

expressed the opinion of many thinking men in the trade, and that while his statement was not acceptable to the majority of his hearers, the truth of it will become more and more apparent as time rolls on."

The committee, in that portion of its report which referred to the U. S. Pharmacopœia, called the attention of the association to the fact that the delegates were to be chosen during the ensuing year for the next Decennial Convention, which in turn will select the Revision Committee of the Pharmacopœia. The committee recommended to the association that they interest themselves in having appointed by other associations at least two delegates familiar with the manufacture of medicinal chemicals and at least two familiar with the drug markets. Such men would be of great value to the Revision Committee and also in safeguarding the interests of the wholesalers and manufacturers. In discussing principles which should govern the compilation of the next Pharmacopœia, the committee calls to the attention of the association the fact that standards for medicinal chemicals should be used on their medicinal rather than their chemical purity, the elimination or reduction to the lowest possible limit of all harmful impurities being demanded, but the presence of a small given percentage of a harmless constituent being permitted where its elimination would add unduly to the cost of the finished product. It also calls the attention of the association to the fact that formulas for preparations should be based on the average character of vegetable drugs rather than on selected samples of exceptional quality. The legal character of the U.S.P. demands the most rigid scrutiny of the language used to describe the quality, standards, and tests, which should consist of simple, definite statements that will not admit the shadow of a doubt as to the meaning, while the most careful consideration and verification of the tests proposed are absolutely necessary. In the opinion of the writer, this point is of great importance. He feels convinced that many prosecutions, based on definitions and standards as at present given, would fail, because the wording is so loose that it would not stand when subjected to legal tests.

The committee makes the following comment in the matter of compensation for the work: "Heretofore the work of members of the Committee on Revision of the U.S.P. has been largely a labor of love, as the compensation or honorarium received by them is ridiculously inadequate to the importance of the work. In

the revision about to be undertaken it is absolutely necessary that the value of each test should be accurately determined by competent chemical experts before adoption, and such experts must receive adequate compensation for their services in order that the work may be promptly and satisfactorily performed. If the large sale of the U.S.P., on account of its being the legal standard, does not provide sufficient funds for the adequate payment for expert services, they certainly can be obtained by reasonably advancing the price of the work, the drug and allied trades being both able and willing to pay for the best work that can be produced, and no false ideas of economy should be allowed to prevail in regard to adequate payment for services rendered."

The Committee on Revision to be elected next May should consist of the ablest men obtainable, who will undertake to devote their time to it upon assurance of adequate remuneration.

One point which the committee considered of special importance and which they wish to bring before the intelligent pharmacists of the country is that the Revision Committee, by publishing its suggestions in the Pharmaceutical Press, obtain the criticisms of the trade, especially those engaged regularly in the inspection of the quality of drugs. In this way it can secure very valuable comments from the trade at large on the proposed standards, which should prove of immense value to the committee in its work. It seems to the Committee on Standards and Tests that such a step would result in calling forth the criticisms in advance of the publication rather than after the volume is officially issued, when it is too late. This has been objected to on the ground that if the consensus of opinion of the committee of twenty-five is difficult to obtain, it would add enormously to the labor if the entire trade, as it were, is to be considered. To this the committee replies: "Criticisms are bound to come, and it would be far better to have them sent in and passed upon by the committee or subcommittee having the particular standards and tests in charge before the final adoption of the standard than afterward."

Cocaine legislation was brought to the attention of the members by the Committee on Legislation. It was stated that the result of recent laws was that cocaine sales were reduced in some instances to one-tenth the former quantity sold. The advisability of obtaining Federal legislation was discussed, for, under the present laws, a dealer in one State could sell to a consumer in another State without danger of prosecution. Manufacturers and dealers were

urged to go a step farther than the law required and to intelligently supervise their sales. Where an unusual amount is ordered they were urged to write the party presenting the order for an explanation, or else decline to fill the order entirely. That this is being done to-day by a number of houses shows that where dealers are made to appreciate the condition of affairs they are only too willing to aid the cause of humanity, even at a sacrifice.

President Carter in his address called attention to the fact that in many of the States dispensing physicians are exempt from the provisions of the pure drug laws applying to all other classes, and that consequently there are at least some of these dispensing physicians, actuated more by greed than by ethical or humane sentiments, who buy drugs and medicines from manufacturing houses which give them the largest quantity for the least money, and as there seem to be no legal restrictions upon their dispensing medicines of inferior strength, President Carter expressed the opinion that something should be done to correct this evil by amending the drug laws in this particular.

The better class of medical practitioners are not in favor of having the doctor dispense his own medicines, and are certainly not in favor of any of them being exempt from the provisions of laws providing for uniformity of strength and quality.

Another matter of quite a different character was discussed which might be of interest to this audience. The past year seems to have been characterized by a feeling of hostility to the jobber, expressed by interests that had hitherto been considered wholly friendly. That the N.A.R.D. at their recent annual meeting should have reversed their action of the previous year and endorsed co-operative buying was greatly regretted by the association. The following resolution bearing on the matter was adopted by the convention: "*Resolved,* That we deprecate the efforts of a certain part of the retail trade to eliminate the jobber, which action is in contradiction to the principles of the N.A.R.D., as enunciated in their motto, 'Live and let live.'"

The meeting was well attended. The reports were listened to with much interest, and the business of the association transacted with vigor, often provoking lively discussion. The historical interest and beauty of the city of Richmond added much to the enjoyment of the visitors, while the proverbial hospitality of the citizens won for them the association's lasting gratitude and affection.

BOOK REVIEWS.

A MANUAL OF VOLUMETRIC ANALYSIS. By Virgil Coblentz, Ph.D., Phar.M., F.C.S. Second edition, revised by Anton Vorisek, Phar.D. Thirty-seven illustrations, 234 pages. P. Blakiston's Son & Co. $1.75 net.

This edition has been enlarged and revised with the view of making it more adaptable to the laboratory and classroom.

The work is divided into five chapters as follows: Chapter I, Introductory, Volumetric Solutions (general), Titration, Apparatus, Manipulation, etc. Chapter II, Determinations by Neutralization. The properties and uses of the principal indicators are very clearly explained. The determination of alkaloids is outlined, including the methods of Lloyd, Gordin, and Dragendorff's potassium bismuth iodide reagent. Chapter III, Determinations by Oxidation and Reduction. Chapter IV, Determination by Precipitation, including sugars, diastatic value of malt, etc. Chapter V, Determinations by comparison of colors.

Each chapter is introduced by remarks as to the principles of the determinations, reactions, indicators, and volumetric solutions used. The reactions involved are explained by chemical formulæ, enabling the student to readily comprehend the principles of the analysis and to work out for himself the factors required. Many valuable notes appear as to the precautions that should be observed.

The usual factor tables are given along with a list of the chemical elements and compounds of importance in volumetric analysis together with their molecular weights.

The work will be a very valuable aid to the student, and although its scope is limited it will make a valuable addition to the laboratory library. JOHN R. RIPPETOE.

THE FIXING POWER OF ALKALOIDS ON VOLATILE ACIDS AND ITS APPLICATION TO THE ESTIMATION OF ALKALOIDS WITH THE AID OF PHENOLPHTHALEIN OR BY THE VOLHARD METHOD. By Elias Elvove, Bull. No. 54, Hygienic Laboratory, U. S. Public Health and Marine-Hospital Service, Washington.

Although it is known that the salts of most of the vegetable alkaloids can be estimated by means of phenolphthalein as indicator, no application of this fact to the estimation of the purity of the uncombined alkaloids as found in commerce or as obtained in the course of the various pharmacopœial assays is used. The author

proposes that instead of dissolving the alkaloid in an excess of sulphuric acid as in the U.S.P. methods, an excess of a volatile acid be employed, such as acetic or hydrochloric acid for example, when a definite amount of the acid would become fixed by combining with the alkaloid and could in most cases be determined with the aid of phenolphthalein as indicator, the excess of acid having been volatilized. If hydrochloric is used the alkaloid may be determined indirectly by determining the chlorine by the Volhard method, which may have a wider application since phenolphthalein in some cases, as for example morphine, does not show the end reaction very sharply.

Method of procedure: about 0.2 Gm. of the specimen to be examined is dissolved in an excess of hydrochloric acid (about 20 c.c of 4 per cent.), the liquid completely evaporated; any film which may have formed over the surface is broken up with the aid of a glass rod and the residue allowed to remain on the water-bath (90–95°C.) for three hours. It is then taken up with distilled water (10–20 c.c.), phenolphthalein solution (3 drops) added, and titrated with standard sodium hydroxide until the solution develops a light pink color. At this point one more drop of the indicator is added and if the solution at once assumes a very deep pink color, standard acid is added until the color remaining is only light pink, the alkali equivalent of the acid thus added being deducted from the total alkali added first.

Experiments to determine the effect of the temperature of the water-bath (90–95° C.) and the stability and of varying the amount of alkaloid on the constancy of the proportion of hydrochloric acid in the alkaloidal residue, were carried out on the alkaloids quinine, quinidine, cinchonine, cinchonidine and strychnine. It is shown that fairly close results may be obtained whether the free acid is titrated, using phenolphthalein as indicator, or the chlorine determined by Volhard's method.

In the case of quinine, quinidine, cinchonine and cinchonidine two molecules of sodium hydroxide are equivalent to one molecule of these alkaloids. This is not in entire harmony with the view that both quinine and strychnine are monacid alkaloids (see U.S.P.), hence results might be obtained from a study of the fixing power of the alkaloids on volatile acids, that would furnish conclusive evidence as to the exact relation of the various alkaloids to acids, which for some alkaloids is still surrounded by uncertainty.

JOHN R. RIPPETOE.

THE PHILADELPHIA COLLEGE OF PHARMACY.

The semi-annual meeting of the members of the College was held September 27 at 4 o'clock, P.M., in the Library. Twenty members were present. The President, Howard B. French, presided. The minutes of the quarterly meeting held June 28 and of the special meeting held August 13 were separately read and approved. The minutes of the Board of Trustees for June were read by the Registrar, and approved.

The amendments to By-laws, offered at the meeting in June, to Article VIII, Sections 4 and 6, were considered and, after slight alterations in the wording, were adopted. These amendments remove the initiation fee of five dollars which was formerly required and remove the restriction that active and associate members must reside in the United States, and also broaden the eligibility to associate membership.

The committee appointed at the special meeting in August to draft resolutions on the decease of our fellow member, Thomas S. Wiegand, the late Librarian of the College, reported as follows:

WHEREAS, We are called upon to record the decease on August 10 of our fellow member and friend Thomas S. Wiegand, who for fifty-seven years was an active member and faithful co-worker in the Philadelphia College of Pharmacy, and

WHEREAS, As a member and officer during this long and useful career, his loyal devotion to his Alma Mater, his unwavering zeal and enthusiastic interest in her welfare, and his solicitude for her progress were predominating characteristics that created a sentiment that redounded alike to his honor and her benefit, and

WHEREAS, His personal intercourse with his fellowmen was always marked by cheerful disposition, earnest purpose, sincere friendship, wise counsel, and a fatherly kindness that manifested itself in his unselfish interest in the welfare of every friend and his willingness to sacrifice himself in their behalf, which endowments endeared him to the students, members, officers, and friends of the College and made him the universal friend of all,

Be it Resolved, That in the decease of our friend the Philadelphia College of Pharmacy has lost a devoted member and officer, and American pharmacy one of its noble spirits whose example and influence aided materially in the development of the professional side of our calling.

Resolved, That we enter upon the minutes of the College a record of our sincere sorrow and profound sense of the loss that we have sustained, and likewise as a tribute to his memory an expression of our high appreciation

tion of his personal qualifications and conspicuous services to the College, and be it

Resolved, That these resolutions be spread upon the minutes and that a certified copy be sent to the family of our deceased fellow member and friend.

Respectfully submitted,

GEORGE M. BERINGER,
SAMUEL P. SADTLER,
CLEMENT B. LOWE.

The resolutions were unanimously adopted and were sent to the family.

Mr. Beringer, on behalf of Mrs. Anna M. Huntington, the daughter of Mr. Wiegand, presented to the College a large portrait of him and also his diploma, which were received and the thanks of the College tendered the donor. Professor Remington wished to express his regret at not being in the city when the memorial meeting for Mr. Wiegand was held. The news of his death reached him at Los Angeles, California, while attending the meeting of the American Pharmaceutical Association. He had offered resolutions in reference to his death to the association, which would appear in the Proceedings.

The report of the Committee on Nominations was received and ordered filed. The committee reported that the vacancy in the office of the Librarian was not acted upon, as it was thought best to refer it to the College. The President explained that one of the instructors was temporarily in charge of the Library and he suggested that action be postponed for the present, when on motion it was voted to postpone the election of a Librarian for the present.

Professor Remington for the delegates to the meeting of the American Pharmaceutical Association reported verbally (a full report of the meeting was published by the Editor in the AMERICAN JOURNAL OF PHARMACY for September, pages 428 to 448).

ELECTION OF HONORARY MEMBERS.

The names of five persons proposed by Professor Kraemer for Honorary Membership at the meeting in June (and laid over under the rules) were read, a ballot was taken, and the teller reported their unanimous election, as follows:

Dr. George H. Simmons, Chicago, Illinois, Editor of the *Journal of the American Medical Association,* and promoter of the new

régime in medical education and medical practice; Walter Wyman, Washington, D. C., Surgeon-General, Public Health and Marine-Hospital Service of the United States; Professor Liberty Hyde Bailey, Ithaca, New York, head of the Agricultural School of Cornell University, author of works on plant breeding, plant evolution, etc., and Editor-in-Chief of the *Encyclopædia of American Agriculture;* Professor Dr. O. A. Oesterle, Bern, Switzerland, a co-worker with Professor Tschirch, and professor in the University of Bern, author of many books and papers, the most recent of which is a valuable work on "Pharmakochemie"; Madame Sklodowska Curie, Paris, France, noted for her studies on radio-active substances, and professor at the Sorbonne, Paris.

The President announced the death of our fellow member Charles W. Hancock, which occurred on July 18. He joined the College in 1871. Messrs. McIntyre and Boring testified to the sterling character and worth of the member and of his faithful attendance at the various meetings of the College.

Professor Kraemer reported the recent death of Dr. Susan Hayhurst who, while not a member of the College, had been a subscriber to the AMERICAN JOURNAL OF PHARMACY for thirty years, and was worthy of record in the minutes of the College. She was the first woman graduate of the College. She graduated at the age of sixty-three years, and since then had been instrumental in sending many women students to the College who were under her tuition at the Women's Hospital of Philadelphia. Professor Remington said that the College had no better friend than Dr. Hayhurst. She took a great interest in the College and in the Alumni Association.

Sinclair S. Jacobs, of Atlanta, Georgia, was elected to active membership.

The President announced the following appointments:

Special Committee on Centenary Celebration of the College: George M. Beringer, Joseph P. Remington, Samuel P. Sadtler, Henry Kraemer, Martin I. Wilbert.

Committee on Membership: Clement B. Lowe, E. M. Boring, M. I. Wilbert, R. M. Shoemaker, C. A. Weidemann.

Professor Kraemer gave some information about the special course of lectures to be given during the term. These lectures were to be given by prominent scientists, on a variety of subjects, and were worthy the attention of the members and others.

Dr. F. E. Stewart presented to the College a card picture of Dr. Benjamin Rush and the badge used by the Pennsylvania Medical Association at its annual meeting now in session.

Warren H. Poley urged upon the members the completion of the Wiegand Scholarship. The fund now amounts to twenty-five hundred dollars and it was desired to increase it to three thousand dollars so that it might be made available as early as possible.

The tellers appointed to conduct the election of three trustees reported the election of Aubrey H. Weightman, William E. Lee, Otto W. Osterlund.

ABSTRACTS FROM THE MINUTES OF THE BOARD OF TRUSTEES.

June 1.—Professor Kraemer, in response to an invitation to be present, made some remarks relative to the theses presented by students, and advocated the continuance of existing requirements. Plans had been made which would prove helpful to the next class, and he stated that within a short time he believed that fully 75 per cent. of the theses submitted would be of such a character as to deserve recognition by publication, at least in part. Messrs. Remington, Sadtler, Beringer, and Cliffe spoke favorably of the work recently accomplished and the plans proposed.

The Committee on Accounts and Audit reported having audited the books of the Treasurer, Committee of Publication, and Registrar, and having found them correct.

Mr. Frank G. Ryan notified the Board that he would establish a scholarship to be known as the "Class of 1884 Scholarship," as a memorial to the class with which he graduated.

Resolutions of thanks were passed and ordered to be sent to the Hon. Washington Gardner, Rev. David M. Steele, and Rev. Floyd W. Tomkins for their participation in the commencement exercises.

Mr. Joseph Jacobs, of Atlanta, Georgia, offers a special prize of twenty dollars for the best herbarium collection of plants; or in case a meritorious herbarium is not submitted, then for the best thesis on the microscopical structure of one of our medicinal plants, either official or unofficial.

C. A. WEIDEMANN, M.D.,
Recording Secretary.

October Pharmaceutical Meeting.

The first of the series of pharmaceutical meetings of the Philadelphia College of Pharmacy for 1909–10, was held on Tuesday afternoon, October 19, 1909, at 3 o'clock. Mr. Wm. McIntyre presided, and in opening the meeting asked those present to attend the meetings regularly and to invite their pharmaceutical friends to attend also, stating that they could not fail to find the meetings both interesting and profitable. The program of this first meeting was an attractive one, on account of both the variety of the topics and exhibits, and the timeliness of the subjects discussed.

Prof. Henry Kraemer read a brief paper on "Representation of Druggists' Associations at the U. S. Pharmacopœial Convention in 1910" (see p. 522).

Dr. F. E. Stewart presented a paper on the subject, "Shall we have a Profession of Pharmacy?" This subject will probably be taken up again at a subsequent meeting when more time can be had for its discussion.

Freeman P. Stroup, Ph.G., gave a description of some of the scenic features of his trip *en route* to the Los Angeles meeting of the A. Ph. A., which was illustrated with about 125 post-card views thrown on the screen by means of a reflecting apparatus loaned by Messrs. Williams, Brown and Earle. The trip, starting from Oil City, Pa., was made by rail to Vancouver, B. C., and attention was called to points of interest in St. Paul and Minneapolis and along the Canadian Pacific R. R. The trip from Vancouver to Los Angeles, made partly by water and partly by rail, included stops at Victoria, Seattle, Portland, San Francisco, and Santa Barbara, and a number of views illustrating distinctive features of these places were shown. While in no way pharmaceutical, the account was very instructive and gave those of the audience who had not travelled over those portions of the United States and Canada covered in the trip a very graphic idea of the beauty and wonder of their natural scenery and native resources, their civic progress, and the architectural character of the principal or most interesting buildings in and near the towns and cities.

John K. Thum, Ph.G., gave abstracts of some of the papers presented at the 1909 meetings of the New Jersey and Pennsylvania State Pharmaceutical Associations (see p. 536).

A report of the Richmond meeting of the N. W. D. A. prepared

by Mr. Clarence M. Kline was read in his absence by Mr. Joseph W. England (see p. 546).

The papers and reports having been read, the general discussion was opened by Prof. C. B. Lowe, who said that the method referred to for detannating gentian (p. 538) especially interested him from the fact that when Professor Maisch was alive he contended that gentian did not contain tannin, although it contained principles which gave a tannin-like reaction with iron solutions, and that many battles were fought during his lifetime on this subject. Professor Lowe also made some suggestions regarding the terminology proposed by Mr. Wilbert for expressing the degrees of solubility of the chemicals given in the U. S. Pharmacopœia.

Mr. England favored the suggestion made by Mr. Beringer (p. 538) to treat the elixir of gentian with sodium citrate, and said that it would probably be adopted.

Referring to Mr. Kline's report, Prof. Joseph P. Remington said that it was interesting to him to note that the general principles given in the U. S. Pharmacopœia were satisfactory to such a large and representative body as the National Wholesale Druggists' Association. He said that he was especially interested in the way the Purity Rubric was received, as it was the subject of much discussion by the members of the Revision Committee. Then speaking of the subject of representation at the U. S. Pharmacopœial Convention, he said that the N. W. D. A. would be represented by members who are members of other organizations; that Professor Kraemer's paper was similar to a communication which he had sent to the Board of Trustees of the U. S. Pharmacopœial Convention a few weeks before, and that probably the Constitution would be amended so that all large interests would be represented at the meeting in May next. He remarked also that it is probable that an official laboratory will be established to make final tests on the methods and products to be admitted to the next Revision. As to the publishing of Pharmacopœial matter in advance, Professor Remington said that there was considerable difficulty owing to the book's being copyrighted. He said that to publish the matter broadcast would have the effect of diminishing its value as a copyrighted work and would probably lead to more or less complication. The speaker expressed the hope that with the work so well provided for, the next Revision would appear in three years after the meeting of the Convention, and that, furthermore, he would have been glad if the N. W. D. A. had recommended a five-year revision.

Professor Kraemer said with reference to the Purity Rubric that there are two points of view. He said that to the scientist and experimenter in both plant and animal physiology the presence of even small percentages of impurities is an important consideration. He stated that the traces of substances which were formerly supposed to have little or no influence have been found to have a marked action on the organism. He claimed that exact experiments in pharmacology and the scientific practice of medicine required that the medicinal chemicals should be as nearly pure as possible, as the literature of experimental physiology demonstrated. In presenting these facts, Professor Kraemer said he believed that, although the manufacturing chemists were probably in favor of the Purity Rubric, they would be glad to furnish medicinal chemicals of a greater degree of purity if the standards called for this and if it meant greater efficiency of drugs and greater accuracy in the art of prescribing.

Professor Remington defended the Purity Rubric on the ground that the object was to furnish medicines at a reasonable cost, whereas if the process of purification were carried further the price would be advanced very much.

Mr. Thum cited the strontium bromide of American manufacture as an example of a medicinal chemical coming under the Purity Rubric which yet contained barium, an objectionable impurity. He said that this strontium bromide had occasioned the physicians prescribing it considerable dissatisfaction, and that foreign manufacturers were trying to advance the sale of their product on the plea that it was free from barium. Mr. Thum maintained that the patient should have the best obtainable in medicines, and that he is willing to pay accordingly.

Professor Kraemer said that some of his own recent experiments on plants as well as those carried out by the U. S. Bureau of Plant Industry in their investigation into the cause of loco-weed poisoning showed that barium salts are distinctly toxic.

Dr. Stewart said with reference to the proposed official laboratory that it appeared to him that in the work of revision the experiments could be more satisfactorily carried out under such a plan than to have the work done outside as heretofore.

Professor Remington here added that considerable assistance in this direction had been obtained, as Surgeon-General Wyman had promised the use of the laboratories of the Public Health and

Marine-Hospital Service, Dr. Wiley that of the laboratories of the Bureau of Chemistry, and that several manufacturing firms had likewise placed their laboratories at the service of the Committee of Revision.

At the close of the discussion, Professor Kraemer called attention to various interesting specimens and exhibits. Among these were an historical cinchona exhibit which was displayed in the window of his pharmacy in Brooklyn by Mr. Otto Raubenheimer during the Hudson-Fulton Celebration held in New York from September 25 to October 3 (see p. 534), and loaned by him for this occasion.

Of the other objects exhibited the following were presented by President Howard B. French: a square of the vegetable cloth made from the inner bark of the paper mulberry (*Broussonetia papyrifera*) and worn as a dress by the Samoan women; a bow and arrows used by the Samoans; specimens of eel-grass (*Zostera mariana*) and of sheathing material made from eel-grass. This plant is found abundantly on the Massachusetts coast, and at the present time is largely sold for rubbing down finished furniture. That is, after the furniture has been varnished, the surface is rubbed down with eel-grass and linseed oil, which gives it a dull, smooth, or so-called "egg-shell" polish. Eel-grass is also used in the manufacture of a sheathing and deafening material for the walls of houses, and Samuel Cabot, of Boston, manufactures an article of this kind known as "quilt." The use of eel-grass as a protective material in the walls of houses dates back to Colonial times, as was shown some years ago when the old Pierce house in Boston, which was built in 1635, was examined for repairs. Mr. French was also informed that many of the old houses first erected on Cape Cod and around Massachusetts Bay had the spaces between the weather-boarding and plaster filled in with eel-grass.

Attention was also called to a pillow made from buds of *Abies Fraseri* Lind. commonly known as double fir or balsam, indigenous to the mountainous regions of Tennessee and western North Carolina, which was presented by Doane H. Hage, P.D., of Asheville, N. C.; and to a decorated tree fungus collected and presented by James P. Lengel of the class of 1910.

A vote of thanks was tendered the donors of the specimens, after which the meeting was adjourned. FLORENCE YAPLE,

Secretary *pro tem.*

SPECIAL LECTURES.

THE EXAMINATION OF FOODS.—Dr. W. D. Bigelow delivered the opening lecture on October 8, 1909. The lecturer was introduced by Prof. S. P. Sadtler. The address included a description of the types of general methods employed in the examination of foods for the purpose of detecting adulteration and of the interpretation of the results obtained by those methods. Illustrations were given of attempts that are sometimes made by manufacturers of the cheapest grade of products to so alter the composition of those products that their nature will not be evident to the analyst, and special attention was given to the importance of observing the relations between the different constituents determined by analysis in order to detect such methods of manipulation.

A series of lantern slides were employed, illustrating different forms of food adulteration and several questions relative to the manufacture of food.

THE APPLICATION OF THE MICROSCOPE IN LEGAL INVESTIGATIONS.—The second of the series of special lectures was given on October 22, by Mr. George M. Beringer, who spoke on "The Application of the Microscope in Legal Investigations." In introducing the speaker, Prof. Henry Kraemer, Chairman of the Committee on Special Lectures, said that he was glad that one of the lecturers in the course was a retail pharmacist, and stated that Mr. Beringer had availed himself of the opportunity offered to pharmacists to take up various lines of analytical work.

Mr. Beringer said that the primary object had in mind in presenting this subject was to show to the retail pharmacists and others present the great part played by the microscope in the work of the analyst, stating that this instrument had assumed such importance as to be a constant adjunct in analytical work. His second object was to call the attention of retail pharmacists to a special field of work open to them. Of the various kinds of work, in which the microscope plays an important role, the speaker confined his attention principally to the following: toxicological examinations, blood examinations, urinalysis, and the examination of hand writing. He described in more or less detail the methods followed and the points to be borne in mind in making analyses of the kind mentioned, and illustrated his remarks by means of free-hand drawings and micro-photographs thrown on the screen, which he said were very desirable when attempting to explain facts to a jury.